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AUTHOR Wiio, Osmo A.
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ABSTRACT

Poor results in organizational communication research may be due to the lack of comparative research, relying instead on small, unrepresentative samples from one or two organizations. Measurement techniques such as the communication audit and the network analysis make possible the comparison of different organizations and the collection of data banks for determining interorganizational norms. The 75-item LTT communication audit, developed by the Helsinki Research Institute for Business Economics (LTT), was used with 22 organizations and a total of 5,578 persons between 1973 and 1977. Results indicated that the relationship between communication and job satisfactions is situational and contingent, depending on organizational and communication climates; communication and job satisfactions are fundamentally different. A distance-direction model of the organizational communication situation has been developed on the basis of the results of this series of studies. According to the model, satisfaction with organizational communication is greater when communication distance is short and when the subject acts as sender. The refined organizational communication development (OCD) audit was developed as a standardized procedure on the basis of the LTT studies and involves the four phases of initiation, diagnosis, treatment, and feedback to improve the communication of an organization. (DF)

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Osmo A. Wiio
Orisaarentie 4 K
00840 Helsinki 84, Finland

ORGANIZATIONAL COMMUNICATION STUDIES: THE LTT AND OCD PROCEDURES

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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND USERS OF THE ERIC SYSTEM."

What Is Organizational Communication?

In organizational communication literature there has been much discussion about the "proper role" of communication in the theoretical framework of an organization. The question has been whether communication is a causal or intervening or end-result variable. Is it a tool such as organizational structure or can it be compared with motivation or with organizational achievement such as productivity?

Organizational communication cannot be compared with other organizational variables. It makes all the other variables possible. Without communication there can be no leadership behavior, no motivation and no productivity. Organizational communication can be regarded as an interfacing variable. Interfacing can be defined as the matching of two systems (people, computers, instruments, etc.) so that they are able to function in a compatible and coordinated way. If we combine this idea with a system definition of communication (Wiio, 1975, 55) we get the following definition for organizational communication (Wiio, 1978, 40):

> Organizational communication is such an interchange of information between systems or parts of systems where:
> - output information from one or several control systems causes work processes in one or several other control systems and
> - the communication process interfaces (matches) organizational systems (social, physical, conceptual) in different contingencies (situations, conditions)
>
> so that they are able to function as a social system in a compatible and coordinated fashion to achieve organizational and individual goals.

Wherever two systems -- persons, departments, etc. -- meet in an organization there has to be communication if the systems are to cooperate towards common goals. However, in some situations communication as such may determine the outcome of the cooperation to achieve organizational or individual goals. This is why it is difficult to define the "proper role" of communication in an organizational setting. Communication has a dual role in organizations. It makes organizational functions possible. In some situations, however, it can be compared with other variables -- such as motivation. Communication is, however, the basic structure of any human organization.

SYSTEM MODEL OF ORGANIZATIONAL COMMUNICATION

Figure 1

PROCESS OF ORGANIZATIONAL COMMUNICATION		
ORGANIZATIONAL SYSTEMS	INTERFACE SYSTEMS	GOAL SYSTEMS
SOCIAL SYSTEMS	→ COMMUNICATION →	→ INDIVIDUAL AND SOCIAL GOALS
TECHNOLOGICAL SYSTEMS	→ COMMUNICATION → COUPLING SYSTEMS →	→ WORK PROCESS
INFORMATION, COMMUNICATION AND DECISION SYSTEMS	→ COMMUNICATION →	→ ORGANIZATIONAL GOALS
DIFFERENT CONTINGENCIES IN DIFFERENT SITUATIONS		

Methodological Problems

The results of organizational communication research have not been very useful in the past. In many other fields of human communication practical results have emerged to help the practitioner. The main reason for the poor research results may be the lack of comparative organizational communication research.

Organizational communication research -- untill recently -- has relied on small and unrepresentative samples from one or at most two organizations in any particular study. It has been estimated (Porter and Roberts, 1972) that before 1972 our knowledge about human behavior in organizations was based on fewer than 1500 persons. The studies have been static "one-shot pictures" and there has been a total lack of a dynamic approach where time would have been a research variable. There has also been an absence of normative data with possibilities for comparison between different types of organizations in different situations and environments.

The picture is, however, changing with the emergence of such measuring techniques as the communication audit and the network analysis. These new techniques offer new possibilities for organizations to find out what is wrong with organizational communication.

Standardized measuring instruments make it possible to compare different orga-

nizations -- or the same organization at different times. Together with a standard data processing system these methods have made the measuring procedure quite independent of the research staff in the conduct of the survey and the evaluation of the analysis. Different research teams obtain similar results.

Standardization also makes it possible to collect data banks for interorganizational norms. The situational nature of organizational communication requires different norms for different types of organizations. Large data banks are needed for such purposes.

This paper presents some results from comparative organizational communication studies made in Finland in 22 organizations between 1973 and 1976 using a standardized measuring instrument: the LTT COMMUNICATION AUDIT PROCEDURE.

The LTT Communication Audit Studies

Communication audit is an organizational communication measuring system developed during 1970's independently in two different organizations. The International Communication Association (ICA) started its ICA Communication Audit development in 1971 and the system became operational in 1976. The author of this report started with Martti Helsilä the LTT Communication Audit Procedure in 1971 at the Helsinki Research Institute for Business Economics (LTT) in Helsinki, Finland. The LTT Audit Procedure became operational in early 1973.

A standardized instrument was developed to measure the "communication climate" in organizations. The instrument was based on a large number of previous studies made elsewhere. The final instrument emerged from a pilot study by Martti Helsilä (1971). Data analysis has been conducted by the present author.

The instrument is relatively simple and short: 75 questions. It is in standard form for all organizations but it has some flexibility to take organizational differences into account. A computer program was developed for reporting the results and data analysis. By late 1977 , 22 organizations had been audited; one of the organizations twice. The total sample is 5 578 persons from a population of some 30 000 persons.

The study may be unique -- so far -- in several respects. The most important aspect is the large size and representativeness of our sample. Studies of organizational communication have been traditionally conducted in only a few organizations and without using comparative measuring instruments.

In addition, the organizations in the LTT study represent a wide range of work organizations, from manufacturing industry to public administration and hospitals. We emphasize the large and representative sample because organizational communication seems to be quite situational. The standardized measuring instrument has also made it possible to directly compare different types of organizations or

organizations over time. The LTT Audit has also provided practical norms for the organizations for purposes of comparison.

Some LTT Audit Results

Organizational Communication Is Situational

Perhaps the main finding from the LTT studies so far is that organizational communication is quite situational. The findings support the contingency view of human communication (Wiio, 1975). The success of communication in each situation depends on the matching of the system processes to the purpose of communication and to the constraints of the communication situation.

In previous studies no significant relationships had been found between such demographic variables as sex, age, education, etc., and -- on the other hand -- communication satisfaction. According to the LTT findings this negative result was, perhaps, caused because too few organizations were studied for comparative purposes. Our results show a different trend.

It seems that the demographic variables have different affects in different types of organizations. There were no general relationships, thus far the previous studies were right. Sex seems not to be a strong factor in organizational communication behavior. It is, however, more important in Finnish banks, insurance companies and hospitals than in other types of organizations. Age is more general than sex, the strongest correlations with communication variables were in printing industry, banking and insurance companies.

Some writers have suggested that there is a positive and linear relationship between job satisfaction and communication satisfaction: the more satisfied the employees are with communication the more satisfied they are with their jobs. We found very little evidence of this. On the contrary, in some cases improved communication has resulted in decreased job satisfaction although this may not be the rule.

The relationship between communication and job satisfaction seems to be situational, contingent. It depends on the organizational climate and communication climate. We have also shown that communication satisfaction and job satisfaction are basically two different things. This, of course, is consistent with our model with communication as an interfacing variable in an organizational setting.

We found several significant relationships between demographic and communication variables (Wiio, 1977, 1978). These relationships were contingent on the type of organization: in different types of organizations different demographic variables were important.

DISTANCE AND DIRECTION CONTINGENCIES

According to our LTT Audit data there are clear differences in the attitudes towards information sources: We asked: "How much information do you get about the organization from your immediate superior, other superiors, shop steward or liaison officers, members of joint committees, and fellow employees?" The ranking of the topics ordered negatively with respect to satisfaction was the following:

Table 1

COMMUNICATION SATISFACTION - LTT AUDIT (n = 5114)

TOPICS RANKED ORDERED NEGATIVELY WITH RESPECT TO SATISFACTION

Rank	Percent	Question from LTT survey questionnaire
1	69	Other superiors (management)
2	58	Members of the joint committee
3	53	Your immediate superior
4	50	Shop steward ot liaison officer
5	27	Fellow employees

We also asked about communication improvements: "In what respect would you like to see communication improved?" Positive answers give the following list.

Table 2

COMMUNICATION IMPROVEMENTS - LTT AUDIT (n = 5114)

TOPICS RANK ORDERED POSITIVELY WITH RESPECT TO NEED FOR IMPROVEMENT

Rank	Percent	Question from LTT survey questionnaire
1	73	From management to personnel
2	71	From immediate superiors to personnel
3	64	From shop steward to personnel
4	63	From joint committee to personnel
5	62	From personnel to management
6	60	From personnel to immediate superiors
7	59	From personnel to joint committee
8	58	From personnel to shop steward
9	50	Among personnel

These rank orders are very consistent across different types of organizations and organizational levels. Thus we feel justified in suggesting the following conclusions:

1. Dissatisfaction with organizational communication seems to increase with organizational d i s t a n c e between the source of information and the receiver.

2. D i r e c t i o n of communication (flow of information) has an effect on organizational communication satisfaction. Organization members are less satisfied in the role of receivers than in the role of senders of

information. There seems also to be a difference in the effects of vertical and horizontal direction of organizational communication but it is too early to suggest definite relationships.

The distance hypothesis is supported by Table 1 . Other superiors (management) are regarded as the worst sources of information and fellow employees as the best sources. The pattern is repeated in the wishes for improvement (Table 2). The first item on the ranking list is "improved communication from management to personnel" and the last item is "among personnel."

The same finding is evident also in the International Communication Association Communication Audit System research report by Yates et al. (1976, p.89):

> "Employees are least satisfied with information sources most removed from their immediate work environment (top management, their boss' superiors) and most satisfied with sources closest to their daily work performance (their boss, co-workers)."

The ranking of topics ordered negatively with respect to satisfaction in the ICA Arizona Audit is almost similar to our ranking: top management, your boss' superiors, your boss, formal management presentations, individuals in other units, department meetings, the grapevine, co-workers in your unit. The rank order is more or less the same in other ICA Audits as well.

There are, of course, some very good explanations for this distance hypothesis. Man is a social animal and has adapted his behavior through millions of years of social life. He has to get along with his immediate social environment, otherwise he might be rejected by his group. It has been suggested (Eibl-Eibesfeld, 1973) that there might be a genetic tendency in man to accept familiar persons and reject strange people. This tendency would seem necessary in order to keep small social systems intact. Theories of cognitive consistency and congruence, on the other hand, explain why communication with accepted and trusted persons is experienced more positively than communication with less accepted persons.

The direction hypothesis is supported by the data in Table 2 . The first four items in the ranking list concern communication from the source of information towards the receiver. The next four items concern communication from the subject or his group. The last item (least negative) concerns communication inside the group.

In communication it seems better to receive than to give. "There is nothing wrong with my communication, I just don't get enough information." This seems to be a very general attitude among members of organizations. They feel that they themselves give enough information, the problem is the "other people." If there is dissatisfaction in their outgoing communication it is in their belief that they are not allowed to express themselves freely or that their opinions are not

considered. As an example we present a part of the ranking list of the ICA Florida Audit (Yates et al., 1976).

Table 3

COMMUNICATION RELATIONSHIPS - FLORIDA AUDIT

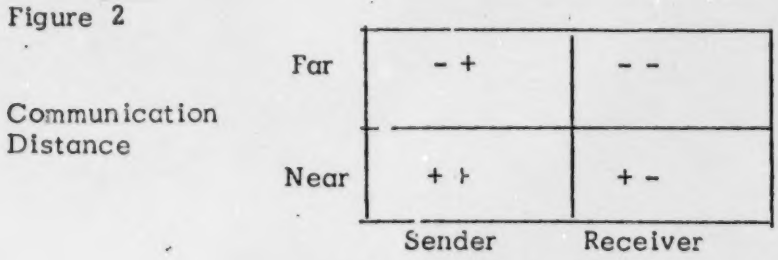
TOPICS RANK ORDERED NEGATIVELY WITH RESPECT TO EFFECTIVENESS

Rank	Percent	Mean	Question from ICA survey questionnaire
1	42.9	2.59	Extent differences of opinion encouraged
2	41.6	2.66	Extent top management is sincere
3	40.7	2.69	Extent organization rewards performance
4	39.2	2.76	Extent you trust top management
5	36.8	2.72	Extent different groups share information
19	3.8	3.87	Extent co-workers get along
20	3.4	3.91	Extent you trust your co-workers

The Distance-Direction Model of Organizational Communication Satisfaction

The above analysis suggests the following relationships between organizational communiction satisfaction, distance and direction.

Figure 2



In the model communication distance is indicated by the scale near-far. Communication direction is indicated by the communication role sender-receiver; in the sender role the information flows away from the organization member and in the receiver role the information flows toward the organization member.

According to the model satisfaction with organizational communication is greatest when communication distance is short and the subject acts as an information sender. A slightly less satisfactory situation exists when the communication distance is short and the subject acts as an information receiver. When the communication distance is great and the subject acts as a sender there tends to be more dissatisfaction than satisfaction. Dissatisfaction is the rule when distance is great and the subject acts as an information receiver.

 The next obvious question is: how near is near and how far is far? In a work organization "near" connotes the immediate work environment, the work group

and the immediate superior. In communication terms it means a communication system defined by frequent, interactive, transactional contacts. "Far" connotes a communication system defined by infrequent, mostly one-way and often indirect contacts.

It may well turn out that the distance dimension can be divided into several communication systems. There are some indications of that in our data but not conclusive evidence. There are also differences in the vertical and horizontal communication but our measuring instruments were not designed for the study of this relationship.

Our analysis suggests that there are at least four different contingencies of organizational communication satisfaction from the viewpoint of an individual member of an organization.

1. Near-sender Contingency

In this contingency the organization member is a sender of information to his immediate social environment, his work group, his immediate superior and his closest friends. In frequent and interactive communication this contingency is sometimes difficult to distinguish from the near-receiver contingency. This contingency represents usually the greatest amount of communication satisfaction.

2. Near-receiver Contingency

Here the organization member assesses his chances to receive information from the immediate social environment. This communication is usually perceived as positive but is subjected to more criticism than in the first contingency.

3. Far-sender Contingency

In general, communication to the environment outside outside the immediate social system is perceived more negatively than to the immediate environment. In this contingency negative attitudes, however, do not to be very strong.

4. Far-receiver Contingency

This seems, clearly, to be the most negative organizational communication contingency. Organization members seem to blame distant information sources for almost all communication failures. In contingencies 3 and 4 it is easy to make a distinction between the sender and receiver roles.

In addition to these contingencies there are, of course, a large number of other situational communication systems. Also demographic contingencies play an important role in organizational communication satisfaction.

There is an analogy with Herzberg's two-factor theory of work motivation. Communication with distant sources seems to belong to his hygiene factor and communication with close sources to his motivation factor.

Comparison of the Same Organization between the Years 1973 and 1976 as Well as with Other Organizations.

A printing house and publisher was audited in early 1973 and again in early 1976. In the intervening years the firm has moved from the center of the city to a modern and attractive plant in the suburbs. The total number of employees had remained about the same: a little over 500 persons.

Auditing in 1973

The first communication auditing was done in early 1973. The iniative for the audit came from management. The idea was also accepted by the joint committee of management and personnel. The practical auditing was done with close co-operation between the research staff and the joint committee. It seems that the attitude among personnel towards the audit was positive.

The firm - which we call here the Printing House - was the second application of the LTT Audit System and much experience was obtained during the actual auditing. The directions were not as defined as they are now and many problems had to be solved on the spot.

The report could not be compared with other reports as there was only one earlier study made in an entirely different branch of industry. The interpretations of the results had to be given at their face value. The scales were compared with each other and means were used for ranking.

The report was discussed with management and the joint committee. The joint committee adopted some recommendations about efforts to improve internal communication. Management decided to improve the availability of economic information - in other words information about production, sales, employment etc. It was also decided that a follow-up study should be made in a couple of years.

Auditing in 1976

Environment of the Organization

The 1973 oil crisis affected the Finnish economy as well as many other industrial countries. The recession was a little late in coming but inflation and unemployment were quite bad in 1974 and 1975. Inflation was nearly 20 % per year. Unemployment increased the need for government support of social security resulting in higher taxes. Inflation and taxes cut heavily into the buying power of the individual. The "labor climate" had been quite restless. There had been

a large number of strikes although not in the printing industry.

Political differences in Finland are traditionally sharp: there are eight political parties in the Finnish Parliament. There is a major division between the Socialist parties and the non-Socialist parties. There is a small non-Socialist majority in the Parliament. In addition there is a rivalry between the two Socialist parties: the Social-Democrats and the Communists. This rivalry is reflected into the labor relations in industry. Some unions are controlled by the Social-Democrats and some unions by the Communists. The Printers' Union is controlled by moderate Social-Democrats. However, the general Parliamentary elections in September heated up the political discussion and again sharpened political differences.

Inside the Organization

New Location

The Printing House occupied a building in the center of the city. This facility became too small and unsuitable for modern printing techniques. In 1964, the first section of a new plant was completed outside the city, and in 1967 the whole production effort moved to the new location. However, all the administration and publishing activities stayed in the city untill 1974 when they also moved.

The layout of the new plant is quite different from the previous work environment. The new plant consists basically of two large halls or work areas in two floors. The printing shop is on the upper level, the other activities downstairs. At the time of the first audit the production had been at the new location for some years. However, most of the salaried employees moved there in 1974.

New Owner

The company had been an independent Printing House for almost a hundred years. However, in 1970 it was bought by a large industrial company which owned several other companies. The Printing House remained virtually independent untill 1975 when it was totally merged with the new parent company.

The new ownership has not made very many changes in the daily work. Management has remained the same as well as most activities. However, there has been a change in the communication pattern.

New Communication Channels

Before 1973 the Printing House published a traditional House Organ: a magazine type publication. It was well edited and well printed but came out only six times a year. With the new ownership the House Organ was discontinued in 1973 and replaced by a mimeographed News Bulletin. In addition, all the employees started to receive another House Organ, that of the parent company. The News

Bulletin comes out every other week and the House Organ 4-6 times a year.

The Most Important Changes

The directly comparable scales of the two studies were compared by using the chi square test. We have already previously discussed why the mean values may be misleading, although they may also be helpful in some cases.

The scales were paired so that e.g. item number 21 of 1973 was paired with the item 21 of the year 1976. A chi square test showed that the chi square value of the test was 24.78, which is a significant value on a level better than 0.1 %. A phi coefficient was also computed and the result was .19. There had been a highly significant change in the perceived climate of supervision between the years 1973 and 1976 in the Printing House.

Similarly all the items were compared; the chi square values and phi coefficients were computed. A list of the 12 most significant changes were ranked. Of the 58 comparable pairs of items 26 did not show statistically significant changes when tested with the chi square test.

Table 4

12 Most Important Differences between the Printing House Audits of 1973 and 1976 (n = 327 and 390)

Var. Nr.	Chi	Phi	Question from LTT Survey Questionnaire
50	47.97	.26	Amount of economic information
46	41.06	.24	Amount of information about one´s own work from fellow employees
23	33.25	.22	Satisfaction with wages and salaries
63	30.89	.22	Improved communication among personnel
39	30.71	.21	Amount of information about the organization from bulletin boards
24	32.30	.21	Satisfaction with social benefits
38	28.83	.20	Amount of information about the organization from fellow employees
26	26.22	.19	Satisfaction with interesting work
75	25.45	.19	Satisfaction with labor relations
47	20.17	.19	Amount of information about one´s own work from bulletin boards
21	24.78	.19	Satisfaction with supervision
28	26.12	.19	Satisfaction with job security (employment)

(All changes are highly significant: p is better than 99.9 %)

The chi square analysis, of course, only shows that there are significant changes in the audit results between 1973 and 1976. A further analysis of the actual items provides detailed information about the quality of the changes.

Economic information

The nature of the change between the measurements is easy to see from the comparison of the item scales: (Item 50)

Question: What kind of information do you get enough of?

Economic situation	Quite enough		%		Far too little
1973	15.08	25.57	11.20	15.73	31.80
1976	33.85	19.38	17.31	12.92	16.52
Difference (%) 73 - 76	-18.77	- 6.19	-5.51	2.81	15.26

In 1974, 47.53 per cent of the personnel were dissatisfied and 40.65 per cent satisfied with the amount of economic information they were receiving. In 1976 the number of dissatisfied was down to 29.46 per cent and the number of satisfied had gone up to 53.23 per cent.

The results show clearly the effect of the increased information about economic matters since 1973. However, the effect is also enhanced by the recession in 1974 and 1975 and the increased importance of economic news in general.

Information from Fellow Employees

There are significant changes on two item scales about communication with fellow employees: variables 46 and 38. These items measure the amount of information about one's own work (46) and about the organization (38) received from fellow employees.

The items measure, in the first place, very much the same thing. The chi square value of a test between the two distributions of the same year does not reach a statistically significant value. In fact the value is as low as 0.5. Thus it is enough to analyze only the change of one of the item scales. The changes are very similar anyway. The distributions for the two years are for Item 46 .

Question: How much information do you get about your own work from:

Fellow employees	Quite enough		%		Far too little
1973	24.19	32.90	10.64	21.93	10.32
1976	28.83	24.68	25.45	10.13	10.91
Difference (%) 73 - 76	-4.64	8.22	-14.81	11.80	-0.59

In 1973, 32.25 per cent of personnel were dissatisfied with the amount of information received from fellow employees. In 1976 it was 21.04 per cent or 11.21 per cent less. The number of satisfied employees has remained almost the same - 57.09 and 53.51 per cent - and the largest change has been in the "undecided" category. This is an increase of 14.81 per cent between 1973 and

1976. We can safely say that dissatisfaction has decreased although satisfaction has not inreased.

There is a very logical explanation for this development. The Printing House moved to its new premises. Before that, the firm occupied a rather old building with a large number of separate rooms for the white collar employees. The new plant uses the open space or "landscape office" principle. This system is applied also to the printing shop and efforts have been made to reduce the noise level. The result has been a favorable communication climate. It is very easy to communicate with the fellow employees on all organizational levels.

It is also clear why there was a decrease in dissatisfaction rather than an increase in satisfaction. In the "open ended comments" of the questionnaire some answers give a clue: many persons are not satisfied with "the useless information of an open space work environment. There clearly seems to be - at least for some persons - information overload. This is, perhaps, why the undecided category has grown some 15 per cent. Many persons do not know whether they should regard the new premises as a positive or negative development.

Communication among Personnel

In 1973, 52.88 per cent of the employees thought that improvement was needed in the communication among personnel. In 1976 the figure was 38.67 per cent. In item 63 we asked:

Item 63

Question: In what circumstances would you like to see improved communication?

Among personnel	Very much		%	Very little	
1973	27.79	25.08	13.22	18.30	15.59
1976	23.48	15.19	30.39	16.30	14.64
Difference (%) 73 - 76	4.31	9.89	-17.17	2.00	0.95

We can see very clearly the effect of the open space work environment: dissatisfaction with communication among personnel has decreased significantly. However, satisfaction has not increased with the same amount. Here again the largest change is in the undecided category. There is an increase from 13.22 to 30.39 per cent.

This result corroborates the previous finding about the uncertainty of the "improvement" of the open space work environment. It is agreed that communication among the personnel is "not as bad as before" but the question is whether communication now is better.

Further analysis shows that salaried employees in the publishing and adminstration functions tend to be more negative about the change than others.

Bulletin Boards

There were significant changes in two item scales concerning bulletin boards as a means of communication. Here again items 39 and 47 measure more or less the same thing. There is very little discrimination between the amount of information about "one's own work" and information "about the organization". We shall analyze only one of the scales.

In 1973 two thirds of the personnel (65.70 %) thought that they received enough information from the bulletin boards. In 1976 the figure was 51.28 per cent. Here again the number of undecided had increased from 11.21 to 26.02 per cent. Satisfaction had decreased but dissatisfaction had not increased.

Item 39

Question: How much information do you get about the organization from:

Bulletin boards	Quite enough		%		Far too little
1973	26.28	39.42	11.21	14.42	8.65
1976	25.51	25.77	26.02	12.50	10.20
Difference (%) 73 - 76	0.77	13.65	-14.81	1.92	-1.55

At first the results seem a little baffling. Further analysis of open ended answers and discussions with management gave, however, a logical reason for the decrease of satisfaction. It is clear that there was, in the case of bulletin boards, an information overload. The boards were too full of information and it was difficult to find relevant information. In this case there was a need for improvement. It was suggested that several bulletin boards be used for different matters as well as using different colors of paper for separate categories of information.

Job Satisfaction

Item scales 23, 24, 26, 75, 21, and 28 measured different aspects of job satisfaction. We shall give a detailed analysis of one of the scales and mention briefly the main trend of each change in the other cases.

Variable 23 measures satisfaction with wages and salaries. Comparison between the years 1973 and 1976 shows that in 1973 almost 75 per cent of personnel were more or less dissatisfied with their wages and salaries. In 1976 the figure was 62 per cent. However, the number of satisfied was almost the same in both cases: 18.75 and 19.60 per cent. The percentage of undecided had increased from 7 to 19 per cent.

The trend seems to contradict "real world development": the buying power of the wages and salaries had decreased because of inflation but dissatisfaction with wages and salaries had also decreased.

Item 23

Question: Are you satisfied or dissatisfied with the following aspects of your job:

Wages and salaries	Very satisfied		%		Very dissatisfied
1973	5.00	13.75	6.87	33.12	41.25
1976	7.36	11.84	18.89	19.10	41.81
	-2.36	1.91	-12.02	14.02	-0.56

The interpretation of this comparison may be found in the general uncertainty of the economic situation. Wages and salaries may be too low but, on the other hand, the unemployment was rapidly increasing and it was a positive thing to have a job. In combination with the move to a new location and the new ownership the difficult economic situation had created a general atmosphere of uncertainty in the company. This uncertainty explains - at least partly - the systematic increase of the undecided category on the item scales.

The same trend can be seen in all the other job satisfaction items. The only exception is item 75 (union relations). Although even there was an increase of undecided opinions (about 6 %), however, there was clear 10 per cent decrease in dissatisfaction and 5 per cent increase in satisfaction with union relations in the company. Discussions revealed that such a positive change had, in fact, taken place.

Comparison with Other Organizations

It is not sufficient to compare changes over time for one organization. It is also important to know how the organization compares with other organizations. Is job satisfaction better or worse than in comparable other organizations? And how can the communication climate be compared with the climate of other organizations?

For these comparations we use a norm system in which the present organization is compared with results obtained in previous audits from other organizations. Preferably the comparison should be done with results from the same branch of industry (or organizations). In our case, however, the data bank contained only one other printing company. The manufacturing industry was selected as it provides, as it were, a "basic industrial norm".

Chi square tests were used to compare the differences in the distributions of the scales. Scales were paired so that variable 21 in the manufacturing industry audit was compared with variable 21 in the Printing House audit. The manufacturing industry norm is based on 1720 subjects and the Printing House audit in 1976 had 390 subjects.

The Most Important Differences

The chi square values and phi coefficients of the differences gave the following ranking for the 12 most important differences between the manufacturing industry norm and the Printing House audit 1976.

Table 5

12 Most Important Differences between the Manufacturing Industry Norm (n=1720) and the Printing House Audit (n= 390)

Var. Nr.	Chi	Phi	Question from LTT Survey Questionnaire
50	192.08	.31	Amount of economic information
58	111.72	.23	Amount of information about sales
24	111.57	.23	Satisfaction with social benefits
78	101.88	.23	General satisfaction with communication
30	85.90	.20	Satisfaction with safety in the work
46	78.22	.20	Amount of information about one's own work from fellow employees
63	76.16	.20	Improved communication among personnel
21	75.70	.19	Satisfaction with supervision
52	74.25	.19	Amount of information about one's own work
55	74.03	.19	Amount of information about social welfare in the company
38	69.66	.18	Amount of information about the organization from fellow employees

(All the differences are highly significant, p is better than 99.9 per cent.)

The differences of all paired scales were statistically significant, not only the items listed above. In most cases the Printing House audit result was more positive than the industrial norm. Only in the case of items 46 and 38 the norm was more positive. In the case of items 21 and 52 comparison was difficult because mean values were about the same although the distributions were different.

In the 12 most important differences there are seven items common with the most important changes in the audit results of the Printing House in 1973 and in 1976.

The communication climate and the effectiveness of communication are perceived systematically better than the industrial norms. This is, of course, more or less to expected in a company which deals with communication: printing and publishing

It seems that the Printing House has succeeded quite well in its efforts to improve communication about economic matters and sales. There was a clear positive change between 1973 and 1976. The difference between the 1976 distribution and the industrial norm is highly significant.

It is very interesting that the only items where the industrial norms are better than the Printing House results concern communication with fellow employees (items 46 and 38). In fact in both cases the 1973 distributions were closer the industrial norms than the 1976 data. Here we have further proof about the

uncertainty of the new work environment.

Satisfaction with Communication

Communication satisfaction was measured with eight of the 12 scales above. Variables 50, 46, 52, and 38 were also on the list of the 12 most important changes 1973-1976. In both cases the most important variable is the same: amount of economic information. We shall compare the two distributions of the scale 50.

Item 50

Question: What kind of information do you get enough of:

Economic situation	Quite enough		%	Far too little	
Manufacturing industry	11.41	15.23	9.10	21.73	42.50
Printing House	33.85	19.38	17.31	12.92	16.54
Difference (%) 73 - 76	-22.44	-4.15	-8.31	8.81	25.96

In the manufacturing industry 64 per cent think that they get too little economic information. In the Printing House the figure is 29 per cent. In the Printing House 53 per cent feel that they get enough economic information, in the manufacturing industry the figure is 27 per cent. The difference is very clear indeed.

We can finally compare item 78 (general communication satisfaction) between the manufacturing industry norm and the two distributions (1973 and 1976) from the Printing House.

Item 78

Question: Communications in the company are:

		Good		%		Bad
Manufacturing industry		11.96	34.75	12.38	24.17	16.71
Printing House	1973	20.76	41.21	13.73	15.65	8.62
Difference MI/PH		-8.80	-6.46	-1.35	8.52	8.09
Printing House	1976	21.74	35.04	24.81	13.55	4.86
Difference (%) PH 73-76		-0.98	6.17	-11.08	2.10	3.76

(All differences are statistically highly significant: the phi coefficient between MI and PH73 is .13, between MI and PH76 .23 and between PH73 and PH76 .15.)

In the manufacturing industry 40.88 per cent thought that communications were bad in the company. In the Printing House 1973 data 24.27 per cent felt that communications were bad and in the 1976 data the figure was 18.41 per cent. Despite the increase of the undecided category there is a clear trend of decrease in dissatisfaction with general communication satisfaction.

Discussion about the Comparison

It seems that if the Printing House is compared with the manufacturing industry, communication satisfaction, in general, seems better. To a lesser degree this is also true with job satisfaction; there are scales which show more dissatisfaction than the norm. The explanation is to be found in organizational differences and contingencies. Some people did not like the new work environment which used the open work space principle.

It also seems that the most dissatisfied persons were salaried employees who were the last to move to the new location. They were faced with three important changes in their job contingencies:

1. the new location of the plant and the new owner of the company,
2. the new work environment with open space instead of separate rooms and
3. general economic difficulties and uncertainties.

The salaried employees considered that they had lost privacy when they moved to the "landscape office". They feel that they get unnecessary information and they cannot concentrate in their work. As an additional "insult" they now had to use a punch card which they never used before. This became necessary when the company started to use flexible working hours.

Our analysis shows that both job satisfaction and communication satisfaction are contingent upon external factors such as the economic situation in general. They are also contingent upon organizational factors such as technology. In our case recession and inflation had threatened the subsistence and primary human needs had become more pronounced.

However, organization specific factors have, of course, an effect as well. In our case the company had moved to a new location and had changed much of its technology, production methods, working conditions, communication patterns and social relations. The blue collar employees tended to see many of the changes as positive whereas the white collar employees were more uncertain or negative. Organizations tend to be conservative. It takes time to get used to new conditions. The most pronounced feature in the previous analysis is the highly significant increase in undecided opinions. Members of the organization have not quite yet made up their minds whether they like the new situation or not.

The results showed some very significant changes in communication patterns and effectiveness during the three year period. Satisfaction with economic information has increased. Also the general communication satisfaction has increased.

The main difference in communication practices is, perhaps, the News Bulletin which was started in late 1972. Eight out of ten read the News Bulletin very often and nine out of ten at least quite often. Nine out of ten perceived the News

Bulletin as positive. The House Organ is quite effective as well: two thirds of the employees read it often.

Another clear result is dissatisfaction with bulletin boards. Here typically we have an example of information overload and the lack of proper channeling of information. In communiction optimization is very important: too much information may be as bad as too little information.

Communication variables also clearly indicate effects of the new work environment. Uncertainty has increased as was the case with some job satisfaction variables.

All in all, the results show relevant differences to provide feedback for management and the joint committee about the effects of action in organizational communication.

The results also show that norms should be used with caution. Norms are useful and important but norms change as well in time and different contingencies. In interpreting these data one should ask whether anything important has happened lately to affect opinions in the organization. There is a danger in interpreting deviations from the norm to be caused entirely by organizational changes. External factors may be important as well.

Reliability and Validity

Cronbach's "alpha" coefficient was computed for the LTT items 21-79: items 14-20 were excluded as there was too much organizational variability in their use. Alpha was computed from the covariance matrix. For the 58 items the alpha coefficient was .97 and the square root of alpha is .98. Thus the estimated correlation of the LTT Audit test with errorless true scores is .98 which means a very high level of reliability.

Item analysis was conducted based on the covariance matrix. Item-to-total correlations were computed : the lowest correlation was .13 (item 72) and the highest was .39 (item 78). However, in the development of the OCD Audit instrument other item selection criteria were used as well. The items have to discriminate and they must have organizational relevance and validity. Distributions were compared in different contingencies and phi coefficients were compared with item-to-total correlations. Also factor analysis and regression analysis were used for item analysis.

Validity criteria are very difficult to establish for a test which is intended to be a "norm" itself. Work is in the progress to compare OCD results with other instruments.

Organizational Communication Development (OCD)

Based on results of the LTT Audit study, the author has developed the OCD Procedure (Organizational Communication Development). The OCD Audit is a refined version of the LTT Audit. The OCD Procedure comprises two different measuring and communication development systems for organizations. One of the systems is the OCD Audit Questionnaire.

OCD/1 is based on the so-called Workshop Delphi (WD) technique (Wiio, 1975). The technique was originally developed by the author for future studies to overcome some difficulties encountered with traditional Delphi studies. The WD-technique is, however, applicable to any problem solving area where creative group analysis is needed.

OCD/2 differs from OCD/1 mainly in the method of diagnosis and feedback. The method of diagnosis in OCD/2 is a special OCD Audit Procedure developed for this purpose.

The whole OCD Procedure includes the following phases: initiation, diagnosis, treatment, and feedback. During initiation the need for the use of the OCD Procedure is evolved and the decision is made to use the procedure. Methods of analysis are selected.

In diagnosis organizational communication analysis is performed. There are two diagnostic tools: the Workshop Delphi and the OCD Audit.

In treatment the results of the organizational communication analysis are digested by the organization. Recommendations are made for organizational communication development.

In feedback the results are checked after a certain time and recommendations are made for further action if neccessary.

OCD is a practical approach. It is intended to serve as a set of tools which an organization can -- in most cases -- use quickly and cheaply to indicate some possibilities to improve its organizational communication.

The OCD Procedure has already been used in practice since 1977 and studies are in progress. OCD is a standardized procedure. The results can be compared with results from other organizations and with results from the LTT studies. OCD is also a participatory development system. Members of the organization are expected to take an active role in the process. The procedure uses feedback as an integral part of the process to evaluate progress in the organizational communication development. It is not, however, a panacea to cure all problems of organizational communication.

SUMMARY AND CONCLUDING REMARKS

The theoretical yield of organizational communication research is meager if we compare it with some other branches of communication research. The picture is, however, changing with the emergence of such measuring techniques as the communication audit and network analysis. These techniques offer new possibilities for organizations to find out what is wrong with organizational communication and what could be done to improve it. They also offer new data for organizational communication research -- data which is already changing some established views about the role and functions of organizational communication.

We have given a new definition of organizational communication based on systems and contingency views of organizations and communication. We described results from the Finnish comparative organizational communication studies using the LTT Audit Procedure. Between 1973 and 1977, 22 organizations were studied and one organization twice. The total sample was 5 578 persons from a population of about 30 000.

The results show that the relationship between communication and job satisfaction seems to be situational, contingent. It depends on the organizational and communication climate. We have shown that communication satisfaction and job satisfaction are basically two different things.

We have also suggested a Distance-Direction paradigm of organizational communication situation. According to our model dissatisfaction with organizational communication seems to increase with organizational distance. The further away the sender of the message is the more negatively his message seems to be perceived.

Organization members are less satisfied in the role of receivers of information than in the role of senders of information. People feel that they themselves give enough information. The problem is the "other people."

According to our model satisfaction with organizational communication is greatest when communication distance is short and the subject acts as an information sender. Dissatisfaction is the rule when the distance is great and the subject acts as an information receiver.

Here again we have the situational approach to organizational communication. Communication is perceived differently depending whether the person is a sender or receiver of information and whether the communication distance is short or great.

Our organizational communication studies show the importance of a standard, compatible measuring instrument for comparative studies of organizations. They also indicate how misleading conclusions can be drawn from studies made only in a few organizations.

LIST OF ALL VARIABLES
LTT COMMUNICATION AUDIT QUESTIONNAIRE

APPENDIX 3.1

Var. Nr.	Item
	Demographic:
4.	Sex
5.	Age
6.	Job duration
7.	What job?
8.	Shift work
9.	Organizational level
10.	Education
11.	Union membership
12.	Membership of joint committees
	Research Variables:
	Channels
13.	Opinion about house magazine
	Frequency of discussion with:
14.	Immediate superior
15.	Other superiors
16.	Shop steward
17.	Fellow employees
	Do you read bulletins:
18.	On bulletin boards
19.	In circular letters
20.	In news letters or equivalent
	Job satisfaction:
21.	Supervision
22.	Promotion
23.	Wages and salaries
24.	Social benefits
25.	Working hours
26.	Interesting work
27.	Working conditions
28.	Job security
29.	Clear aims of the work
30.	Safety at work
31.	Responsibility
32.	Tools, equipment
33.	Participation
	Amount of information about the organization from:
34.	Immediate superior
35.	Other superiors
36.	Shop steward or liaison persons
37.	Members of joint committees
38.	Fellow employees
39.	Bulletin boards
40.	News letters or equivalent
41.	Other sources
	Amount of information about your own work from:
42.	Immediate superior
43.	Other superiors
44.	Shop steward or liaison person
45.	Members of joint committees
46.	Fellow employees
47.	Bulletin boards
48.	News letters or equivalent
49.	Other sources
	Enough information about:
50.	Economic situation
51.	Employment situation
52.	Your own work
53.	Changes in production and work
54.	Training and courses
55.	Social welfare in the organization
56.	New tools, equipment
57.	Regulations and agreements
58.	Sales of the company
	Communication improvements:
59.	From personnel to management
60.	From employee to immediate superior
61.	From superior to employees
62.	From management to personnel
63.	Among personnel
64.	From shop steward or liaison person to personnel
65.	From personnel to shop steward or liaison person
66.	From joint committee to personnel
67.	From personnel to joint committee
	General questions:
68.	Immediate superior greets
69.	Other superiors greet
70.	Meeting superiors after working hours
71.	Getting along with superiors
72.	Getting along with fellow employees
73.	Conflicts between groups of personnel
74.	Rumours and false information
75.	Union relations
76.	Partiality of bulletins and information material
77.	Influencing one's own work
78.	Satisfaction with communication
79.	Satisfaction with working in the organization

(Original items are in Finnish and differently worded.)

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